

**Amendments to the Specification:**

Please amend paragraph [0011] on page 2 as follows:

[0011] The invention provides a measurement system that includes: (i) a scanner for scanning an measurement area with a beam of charged particles; (ii) a detector, positioned to receive charged particles resulting from an interaction between the measurement area and the beam of charged particles and to provide multiple detection signals; and a ~~(ii)~~ (iii) a processor, adapted to process detection signals and to control the scanner; ~~whereas~~ wherein the measurement system is adapted to receive a measurement model that includes measurement image information; to locate a measurement area by utilizing the measurement image information; and to perform at least one measurement to provide measurement result information. According to another embodiment of the invention the measurement system is adapted to generate the measurement model.

Please amend paragraph [0019] on pages 3-4 as follows:

[0019] According to an embodiment of the invention a measurement model is provided. This measurement model includes a measurement area image information that can include one or more expected images of a measurement area (reference measurement image) or one or more representations of said measurement image (reference measurement image representation). Once the vicinity of these one or more certain structural elements is found (for example by locating a target and introducing a predefined displacement) it is scanned to provide an image of a vicinity area that is processed to locate the measurement area. The vicinity area is defined in response to the measurement area and displacement inaccuracies introduced during the location of the one or more certain structural elements.

Please amend paragraph [0029] on page 5 as follows:

[0029] ~~Referring to Figure 1 illustrating~~ illustrates a measurement system such as SEM ~~10-100~~, according to an embodiment of the invention.

Please amend paragraph [0030] on page 5 as follows:

[0030] A typical CD-SEM includes an electron gun, for generating an electron beam, deflection and tilt units as well as focusing lens, for enabling scanning of a specimen with an electron beam, that may be in a certain tilt condition, while reducing various aberrations and misalignments. Electrons, such as secondary electrons that are ~~omitted~~~~-emitted~~ as result of an interaction between the specimen and the electron beam are attracted to a detector that provides detection signals that are processed by a processing unit. The detection signals may be used to determine various features of the specimen, as well as form images of the inspected specimen.

Please amend paragraph [0033] on page 6 as follows:

[0033] CD-SEM 100 further includes: (a) an electron gun 103 emitting an electron beam 101, which is extracted by the anode 104, (b) an objective lens 113 that focuses the electron beam on a surface 105a of an inspected object 105, (c) deflection units 108-112, and (d) a stage 101 for introducing a relative mechanical movement between the object 105 and the objective lens ~~112~~ 113.

Please amend paragraph [0034] on page 6 as follows:

[0034] The beam is scanned over the specimen using the scanning deflection unit 103. An alignment of the beam to the aperture 106 or a desired optical axis respectively can be achieved by the deflection units 108 to 112. As a deflection unit, coils, electrostatic modules in the form of charged plates or a combination of coils and electrostatic deflectors can be used.

Please amend paragraph [0037] on page 7 as follows:

[0037] The different parts of the system are connected to corresponding supply units (such as high voltage supply unit 21) that are controlled by various control units, most of them are omitted from the figure for simplifying the explanation. The control units may determine the current supplied to a certain part, as well as the voltage.

Please amend paragraph [0041] on page 7 as follows:

[0041] Figure 2 illustrates a process 200 of generating a measurement model, according to various embodiments of the invention.

Please amend paragraph [0042] on page 7 as follows:

[0042] Process 200 starts by stage 210 of receiving measurement area image information that can include an image of the measurement area or a representation of said measurement area image. This image can be a SEM image, a representation of a SEM image, an image generated by processing EDA information (such as a CAD file, CAD record and the like) of a wafer or even of a reticle (mask), and the like. The CAD file (also referred to as the CAD generated image) may be a simple bitmap containing the CAD data or a simulation of the image of a wafer that would be produced from said CAD file. According to an embodiment of the invention stage 210 may include generating such an image in response to received information such as CAD information and the like. The image is usually stored in a computer readable format, ~~such so~~ as to allow retrieval of the image and a comparison of said image to measured images.

Please amend paragraph [0048] on page 8 as follows:

[0048] According to an embodiment of the invention process 200 allows to-dynamically alter altering the measurement model in response to one or more criteria. Accordingly, stage 230 is followed by query stage 240 of determining if the measurement model fulfills these one or more criteria. Conveniently, the measurement model is valid if all the required measurements defined in the measurement information were successfully completed. If the measurement model is valid then stage 240 is followed by stage 250 of storing the measurement model or merely defining it as a measurement model.

Please amend paragraph [0059] on page 10 as follows:

[0059] The use of the measurement model can allow monitoring deviations from a design, since it can contain the design layout, which can be compared to the actual layout on the wafer.

Please amend paragraph [0060] on page 10 as follows:

[0060] The measurement information can include a definition of various measurements that may be performed on different sections of the measurement image, which previously required several scans. ~~Thus, thus~~ improving throughput and reducing scan effects on the measurement (such as carbonization, photo-resist shrinkage and the like).

Please amend paragraph [0061] on page 10 as follows:

[0061] Using the measurement model can ease a transfer of designer measurement requirements from the CAD to the ~~CD-SEM-CD-SEM~~.

Please amend paragraph [0063] on page 10 as follows:

[0063] The vicinity area 400 includes a measurement area 430 that includes the multiple vias 411-416. It is noted that each area can include a single structural element, a combination of structural elements and structural element portions, one or more structural element ~~portion~~ portions and the like.